



DEPARTMENT OF PLANNING  
STAFF REPORT

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## PLANNING COMMISSION PUBLIC HEARING

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**DATE OF HEARING: May 26, 2010**

**CMPT 2010-0002 & SPEX 2009-0041**

**POTOMAC INTERCEPTOR ODOR ABATEMENT SITE**

**DECISION DEADLINE: June 9, 2010**

**ELECTION DISTRICT: Sugarland Run PROJECT PLANNER: Marchant Schneider**

### EXECUTIVE SUMMARY

The District of Columbia Water and Sewer Authority of Washington, DC, has submitted applications to permit a sanitary sewer odor abatement facility within an existing sanitary sewer easement associated with Potomac Interceptor (PI). The PI conveys wastewater north from Dulles International Airport and along to the Potomac River to the Blue Plains Advanced Wastewater Treatment Plant in Washington, DC. The sewer line also accepts wastewater flows from Loudoun and Fairfax Counties. The PI Long-Term Odor Abatement Program utilizes a variety of odor abatement techniques to mitigate odor associated with the PI as well as preclude gaseous conditions corrosive to the concrete lining of the PI.

The proposal encompasses an 11-acre portion of a 100-acre parcel owned by the Northern Virginia Regional Park Authority (NVRPA) and is identified as Site #46. The parcel is associated with Algonkian Regional Park to the north and Potomack Sportsplex to the west (See Vicinity Map).

The application is subject to the Revised 1993 Zoning Ordinance and the area is governed by the policies of the Revised General Plan (Suburban Policy Area (Potomac Community)) which designate this area for Residential use. Because the subject property lies within the 100-year floodplain associated with Potomac River, the Applicant is required to submit a Special Exception application to request operation of a public utility within the Floodplain Overlay District (FOD). The proposal also requires a Commission Permit in accordance with Section 6-1101.

### RECOMMENDATIONS

Staff can support the commission permit and special exception applications. The proposed odor abatement facility is consistent with the existing land use policies of the Revised General Plan and is an innovative approach to addressing air quality concerns

associated with the Potomac Interceptor and will minimize visual disruption to established recreation and residential uses in proximity to the subject site. Staff continues to review the Applicant's April 22, 2010 submission to determine final conditions of approval necessary to mitigate the impact of the proposed Special Exception use.

## **SUGGESTED MOTIONS**

- 1 I move that the Planning Commission forward CMPT 2010-0002, SPEX 2009-0041, Potomac Interceptor Odor Abatement Site, to a subsequent worksession for further discussion.

**OR,**

- 2a. I move that the Planning Commission approve CMPT 2010-0002, Potomac Interceptor Odor Abatement Site, and forward the application to the Board of Supervisors for ratification, subject to the Commission Permit Plat dated April 21, 2010, and based on the Findings in the May 26, 2010, Planning Commission Public Hearing Staff Report.

*and*

- 2b. I move that the Planning Commission forward SPEX 2009-0041, Potomac Interceptor Odor Abatement Site, to the Board of Supervisors with a recommendation of approval, subject to the Conditions of Approval dated May 4, 2010, and based on the Findings contained in the May 26, 2010, Planning Commission Public Hearing Staff Report.

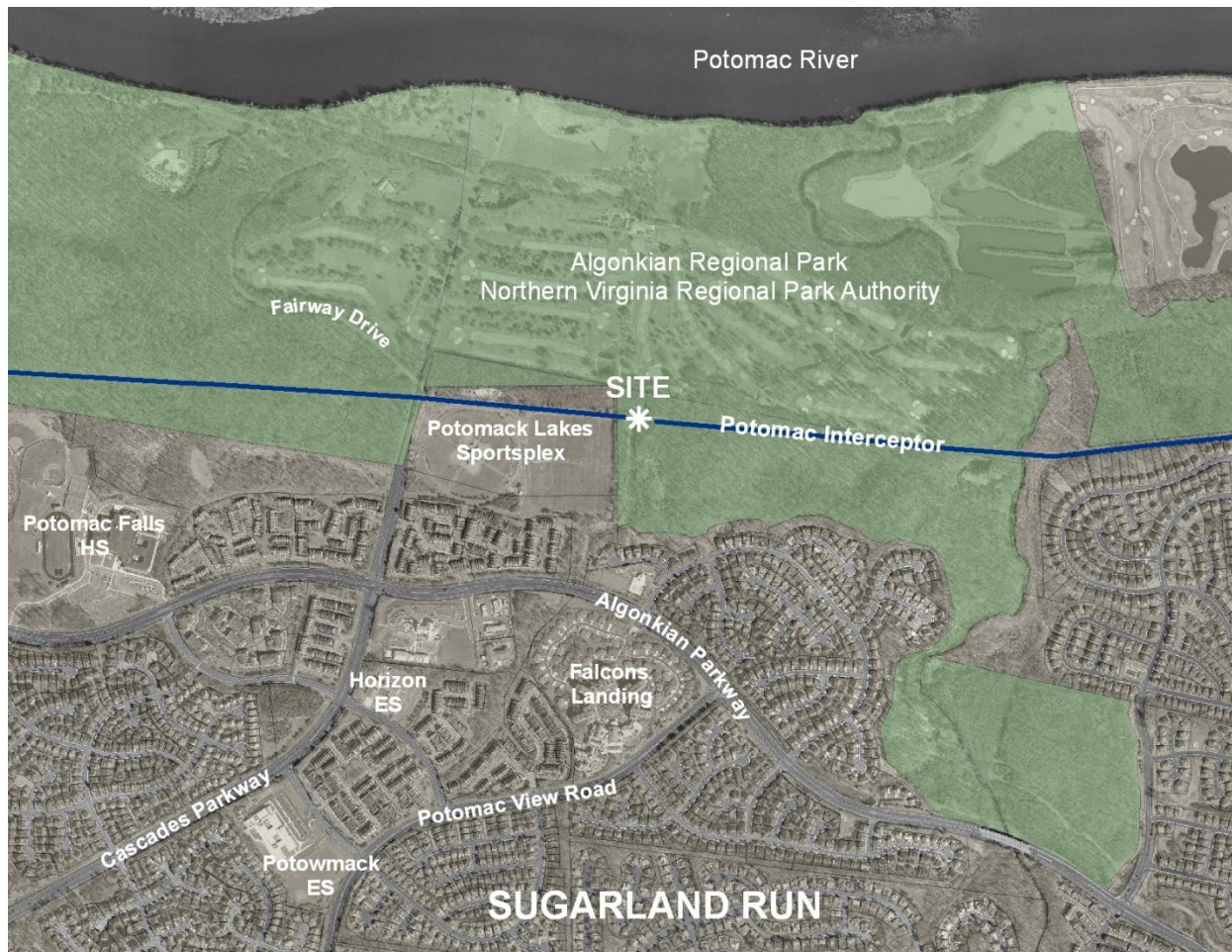
**OR,**

- 3a. I move that the Planning Commission deny CMPT 2010-0002, Potomac Interceptor Odor Abatement Site, and forward the application to the Board of Supervisors for ratification.

*and*

- 3b. I move that the Planning Commission forward SPEX 2009-0041, Potomac Interceptor Odor Abatement Site, to the Board of Supervisors with a recommendation of denial.

## VICINITY MAP



### Directions:

From Leesburg, Take Route 7 east to Cascades Parkway north to Algonkian Regional Park. The entrance to the proposed facility is on the east side Cascades Parkway where the road transitions to Fairway Drive. The subject parcel is south of Algonkian Regional Park, east of the Potomack Lakes Sportsplex, about 0.3 mile north of the intersection of Algonkian Parkway and Cascades Parkway.

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## I. APPLICATION INFORMATION

<b>APPLICANT(S)</b>	District of Columbia Water and Sewer Authority Barry Lucas, Program Manager Planning and Design Branch 5000 Overlook Avenue, S.W. Washington, DC 20032 202-787-2396
<b>REPRESENTATIVE(S)</b>	A. Morton Thomas & Associates, Inc. Mr. J. Keith Sinclair, Jr., Associate 14900 Conference Center Drive, Suite 180 Chantilly, VA 20151 703-817-1373 ksinclair@amtengineering.com
<b>APPLICANT REQUEST</b>	A <b>Commission Permit (CMPT)</b> for a sanitary sewer odor abatement facility per Section 6-1101(A). A <b>Special Exception</b> to allow public utility in the floodplain pursuant to 4-1506(D). The application was accepted on March 18, 2010.
<b>LOCATION</b>	East of Fairway Drive, south of Algonkian Regional Park, east of the Potomack Lakes Sportsplex. Approximately 0.4 mile northeastward of the intersection of Algonkian Parkway (Route 1582) and Cascades Parkway (Route 1794)
<b>TAX MAP/PARCEL #</b>	Portion of Tax Map /81////////116F PIN# 010-10-0295
<b>ZONING</b>	- Revised 1993 Zoning Ordinance - PDH-4 (Planned Development Housing – 4) - Floodplain Overlay District (FOD)
<b>ACREAGE OF SITE</b>	11.5 acre portion of an 100.63 acre parcel.

## SURROUNDING ZONING/ LAND USES

	ZONING	PRESENT LAND USES
NORTH	A-3	Regional Park
SOUTH	PDH-4	Residential/Open Space
EAST	PDH-4	Residential/Open Space
WEST	PDH-4	Residential/Open Space

## II. REFERRAL AGENCY COMMENT SUMMARY

TOPIC / ISSUE AREA	ISSUES EXAMINED AND STATUS
Land Use	<ul style="list-style-type: none"> <li>○ (SPEX Application) Consistency with land use policies of the <u>Revised General Plan</u> (RGP). Status: No Issue. Odor abatement facility compatible with adjacent uses (recreation/residential) established consistent with Residential land use designation.</li> <li>○ (Commission Permit). General location, character, and extent of public utility to be in substantial conformance with land use policies of the RGP. Status: No issue. Odor abatement facility to augment existing sanitary sewer established consistent with wastewater policies of the RGP.</li> <li>○ Implement Green Infrastructure policies (river corridor resources, forest resources, archeological resources). Commitments to LID, tree protection, revegetation recommended. Complete Phase 1 archaeological study required. Status: Applicant April 22 response to 1<sup>st</sup> referral comments under review.</li> <li>○ Commit to site design elements (depicted architectural treatments). Status: Conditions of Approval recommended (Condition 4).</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>○ Identify site selection process given location within 100-year floodplain. Status: No Issue. Location based on requirement for co-location with existing Potomac Interceptor sanitary sewer (PI) within floodplain and spacing requirements in relation to other odor abatement facilities along PI.</li> <li>○ Described anticipated noise levels associated with active blower units. Status: Applicant April 22 response to 1<sup>st</sup> referral comments under review.</li> <li>○ Provide Tree preservation plan and associated tree protection measures at time of site plan. Status: Applicant April 22 response to 1<sup>st</sup> referral comments under review.</li> <li>○ Clarify SWM/BMP plan described in applicant narrative. Status: Applicant April 22 response to 1<sup>st</sup> referral comments under review.</li> </ul>
Zoning	<ul style="list-style-type: none"> <li>○ Special Exception necessary to establish odor abatement facility in PDH-4 Zoning District. Status: No issue. Sanitary sewer easement established pursuant to ZMAP 1986-0013, Potomac Lakes. SPEX application not required.</li> <li>○ Compliance with <u>Revised 1993 Zoning Ordinance</u> requirements. Status: Resolved through plat notations, application revisions, Conditions of Approval.</li> </ul>

TOPIC / ISSUE AREA	ISSUES EXAMINED AND STATUS
Transportation	<ul style="list-style-type: none"> <li>Consistency with land use policies of the <u>Revised General Plan</u> (RGP) and the <u>Revised Countywide Transportation Plan</u>. Status: No issue. Traffic impact associated with proposed use negligible. Existing transportation facilities adequate to serve proposed use.</li> </ul>
Emergency Services	<ul style="list-style-type: none"> <li>Availability of Emergency Services. Status: No issue.</li> </ul>
County Attorney	<ul style="list-style-type: none"> <li>Development conditions, review and approval to legal form. Status: <b>Under Review</b></li> </ul>
Disclosure of Real Parties	<ul style="list-style-type: none"> <li>Received, revised May 4, 2010</li> </ul>

POLICY OR ORDINANCE SECTIONS SUBJECT TO APPLICATION
<u>Revised General Plan</u>
Chapter 2 / General Water and Wastewater Policies
Chapter 5 / Green Infrastructure
Chapter 5 / River and Stream Corridor Resources Policies
Chapter 5 / Surface and Groundwater text
Chapter 5 / Plant and Wildlife Habitat, Forest, Trees, and Vegetation
Revised Countywide Transportation Plan (CTP)
<u>Revised 1993 Zoning Ordinance</u>
Section 4-1500: Floodplain Overlay District
Section 5-600: Additional Regulations for Specific Uses
Section 6-1100: Commission Permit

### III. FINDINGS

1. The general location, character, and extent of the sanitary sewer odor abatement facility within an existing sanitary sewer easement is in substantial accord with the existing land use policies of the Revised General Plan (RGP) (Suburban Policy Area, Potomac Community).
2. The proposed special exception for a sanitary sewer odor abatement facility is compatible with established uses on similarly planned properties adjacent to the site consistent with the existing land use policies of the RGP for the subject area (Suburban Policy Area – Residential); however, the staff continues to review the Applicant's response to requests for commitments to stormwater management, wetland protection, forest resource protection, screening, and building design.
3. The design of the public utility is an innovative approach to addressing air quality concerns associated with the Potomac Interceptor and will minimize visual disruption to established recreation and residential uses in proximity to the subject site.

4. The proposed commission permit and special exception for a sanitary sewer odor abatement facility in the Floodplain Overlay District (FOD) is in accordance with the Revised 1993 Zoning Ordinance.

#### IV. SPEX CONDITIONS OF APPROVAL (May 6, 2010)

Staff recommends the following Conditions of Approval in accordance with the applicable land use policies of the Revised General Plan. Additional conditions are anticipated to address unresolved items identified in the Referral Agency Comment Summary above. The language of the conditions continues to be discussed with the Applicant. Staff will provide a status report to the Planning Commission public hearing identifying what revisions have been made in consultation with the Applicant and County staff.

1. **Substantial Conformance.** The proposed Special Exception use set forth below in Condition 2 shall be developed in substantial conformance with Sheet 1, Sheet 4, Sheet 5, and Sheet 6 (together comprising and herein referred to as the "Special Exception Plat") of the plan set entitled Special Exception / Minor Special Exception Plat / Commission Permit, SPEX 2009-0040 & SPEX 2009-0041 & SPMI 2010-0001 & CMPT 2010-0002, District of Columbia Water and Sewer Authority Potomac Interceptor Long Term Odor Abatement Program – Site 46, prepared by A. Morton Thomas and Associates, Inc., dated April 21, 2010 (the "Plans") and the Revised 1993 Loudoun County Zoning Ordinance (the "Zoning Ordinance"). Approval of this application for Tax Map /81////////116F (PIN# 010-10-0295) (the "Property"), shall not relieve the applicant or the owners of the Property from the obligation to comply with and conform to any other Zoning Ordinance, Codified Ordinance, or applicable regulatory requirement.
2. **Uses Permitted.** Approval of the Special Exception grants approval under the general use "structures or uses required for the operation of a public utility" in the Floodplain Overlay District (SPEX 2009-0033). The use is approved only for that area of the Property shown on Sheet 4, Sheet 5, and Sheet 6 as lying within the bold line labeled as "Special Exception Area" (the "Special Exception Area").
3. **Stormwater Management.** The Applicant shall provide a minimum of two (2) Low-Impact Development (LID) design measures in the general locations shown on the Special Exception Plat. In designing such facilities, the Applicant shall consult with the Department of Building and Development to identify and implement LID measure(s) deemed likely to be effective based on the physical characteristics of the Property. Where ponds are proposed to meet this requirement, such ponds shall be detention ponds (wet ponds) or enhanced extended-detention basins or similar facilities. The LID measure(s) will be designed and implemented in accordance with applicable provisions of the FSM.



4. **Architectural Design Elements.** Although Condition 1 above does not require substantial conformance with Sheet 5 of the Plat, nevertheless the exterior building design of the Special Exception uses shall incorporate the architectural concepts of articulated building façades and varied building heights and the use of varied materials and textures, all as generally depicted on the document "Potomac Interceptor Long Term Odor Abatement Program, Site 46, Proposed Elevations". A written summary of the Applicant's compliance with this Condition shall be submitted as part of the building permit for the Special Exception Uses and parking structure to which this Condition applies.
5. **Lighting.** Site lighting shall conform to Section 5-1500 of the Revised 1993 Loudoun County Zoning Ordinance and Sections 7.110 and 7.120 of the FSM. Lighting fixtures associated with the Special Exception use shall be full cutoff and fully shielded and shall direct light downwards and into the interior of the Special Exception Area and away from surrounding public roads and properties. Said lighting shall meet the requirement of the FSM, unless otherwise required by law, ordinance, or regulation.

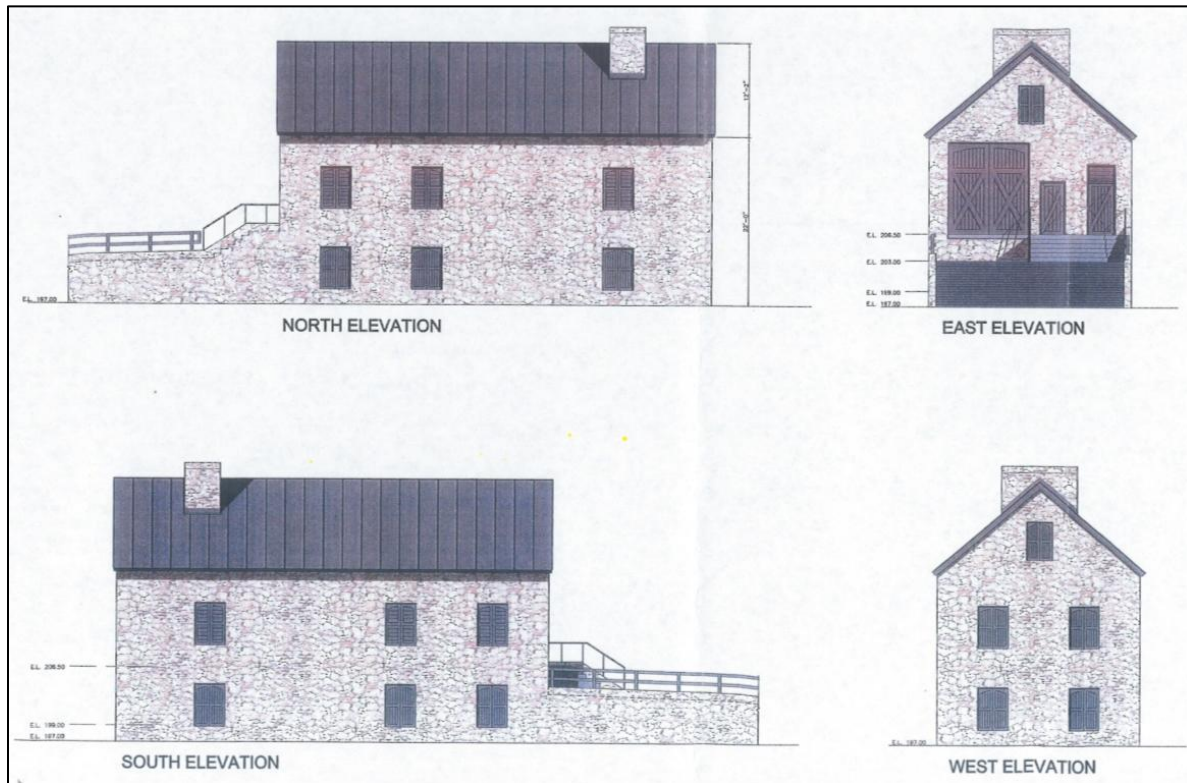
## **V. PROJECT REVIEW**

### **A. CONTEXT**

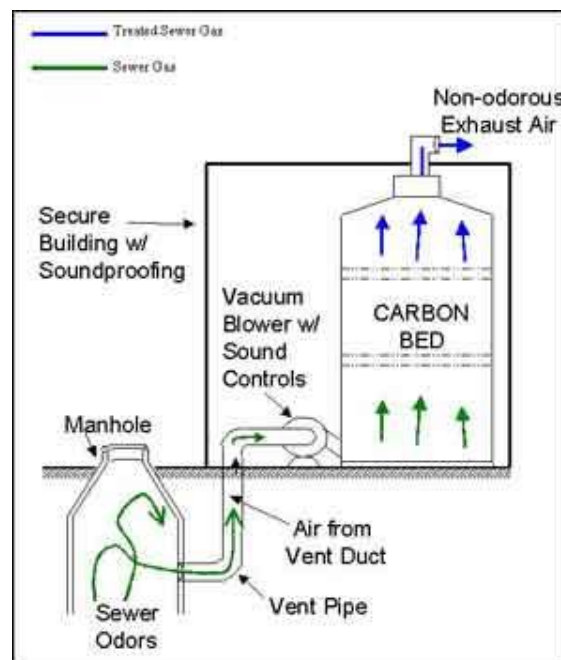
The Potomac Interceptor (PI) Long-Term Odor Abatement Program uses a combination of active (forced-air) blower carbon treatment units, sealed vents and intake-only vents fitted with passive carbon filters to mitigate odor problems along a significant portion of the PI as well as remove sewer gases that degrade the integrity of the concrete pipe conveying wastewater within the PI. The application is identified as "Site #46" on property controlled by the Northern Virginia Regional Park Authority (NVRPA) and is scheduled to be an active blower carbon treatment facility constructed within the existing utility easement conveyed as part of the Potomac Lakes development (ZMAP 1986-0013). The proposal includes a 1,350 square-foot building within a treed area and the Potomac River floodplain to include a 3,200 square foot driveway/loading area. Access is provided via an existing gated gravel driveway from Cascades Parkway/Fairway Drive west of the site. A lateral sanitary sewer line to the PI and flow measurement facility controlled by Loudoun Water is located in proximity to the proposed facility.

The site is one of six locations (one in the District, three in Montgomery County, one in Fairfax County, and one in Loudoun County) identified along the PI which would meet the design criteria for the proposed facility as well as address odor complaints associated with the PI. The Applicant states Site 46 is the preferred location within Loudoun County based on site access, community connections, and overall effectiveness of the odor abatement facility to remove odor and protect the integrity of the PI. The site was selected based on sewer gas generation associated with the Loudoun Water connection to the PI at the subject site, available site access

agreements with NVRPA, and the spacing of the influence zones of all six odor control facilities for the entire PI system.



**Figure 1. Proposed Elevations – Odor Abatement Facility (Site 46)**



**Figure 2. Diagram - Active Blower Carbon Treatment Facility**

## **B. SUMMARY OF OUTSTANDING ISSUES**

Staff continues to review the Applicant's response to first referral comments received April 22, 2010. As noted above, additional Conditions of Approval are anticipated to address unresolved items identified in the Referral Agency Comment Summary. Staff will provide a status report to the Planning Commission public hearing identifying what revisions to the application, if any, have been made in consultation with the Applicant and County staff. It is anticipated that the application will be ready for action by the Planning Commission at the May public hearing.

## **C. OVERALL ANALYSIS**

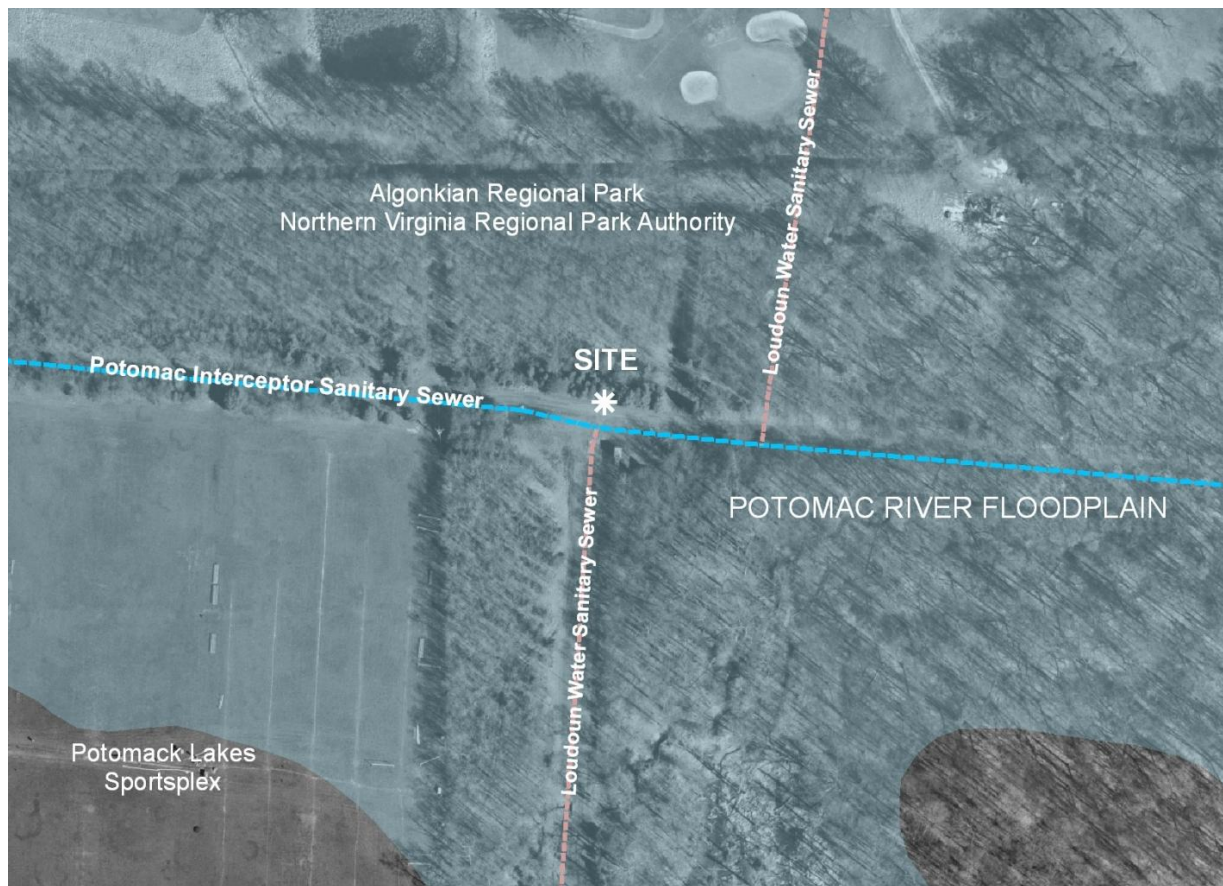
### **REVISED GENERAL PLAN (RGP)**

The applicant has demonstrated that the proposed odor abatement facility would rectify an existing environmental concern (air quality), would be constructed in conjunction with an existing facility, and will minimize visual disruption to established recreation and residential uses in proximity to the subject site through building design and preservation of existing green infrastructure resources. Staff continues to review the Applicant's first response to referral comments and draft Conditions of Approval regarding the Applicant's commitment to its site design.

#### **Land Use – Design and Green Infrastructure**

The proposed odor abatement facility is located within the Potomac Community of the Suburban Policy Area and is designated for Residential use. RGP policies direct that community infrastructure complement the County's land use strategy. Specifically, water and wastewater treatment and conveyance facilities are to be planned, designed, and maintained to be compatible with planned development (Residential) and environmental goals while functioning at a high level of efficiency. New wastewater facilities are to be constructed in a manner that causes the least visual disruption to the surrounding community.

As noted above, the site was selected in part to ensure the most effective use of the odor abatement facility in relation to other facilities located along the length of PI system. The Applicant has submitted building elevations designed to replicate the appearance of a 19<sup>th</sup> Century stone barn (see Figure 1) consistent with architecture found within the County. The design is intended to both screen equipment associated with the odor abatement facility as well as soundproof the blower units. The applicant also states the proposed improvements have been designed in such a manner as to preserve green infrastructure elements found on the site (floodplain to the Potomac River, associated wetlands, existing vegetation, etc.). Specific commitments to Low-Impact Design (LID), tree preservation, and post construction revegetation continue to be discussed with the Applicant.



**Figure 3. Subject Site - Potomac River Floodplain**

### Commission Permit

The Revised 1993 Zoning Ordinance requires a Commission Permit when a public utility or public service facility is constructed to determine if the general location, character, and extent of the proposed use is in substantial accord with the RGP.

The General Public Facilities Policies of the RGP state the County will determine the need for new public facilities and will identify suitable sites based on the RGP, appropriate area plans, land use, and growth policies. Based on the analysis above, Staff finds that the general location, character, and extent of the proposed odor abatement facility is in substantial accord with the Comprehensive Plan.

### **TRANSPORTATION**

The subject parcel is accessed via an existing gated gravel driveway from Fairway Drive that generally follows the Potomac Interceptor easement to the site. The Applicant estimates up to four trips per week for equipment inspection as well as two additional trips per year to maintain and replace equipment. Staff has determined traffic impact is negligible and will not require additional road improvements to support the use.

## FIRE AND RESCUE

Fire and Rescue Staff has no objection to the approval of this application. The Sterling VF-RC (Station 18/25) is identified as the first responder to the subject property.

Per the adopted Board Fire and Rescue Policy, all Applicants are typically asked to provide a one-time monetary contribution to be distributed to the primary volunteer fire and rescue agencies that would respond to emergency situations on the subject property. The County's practice is not to request contributions from publicly funded facilities.

### D. ZONING ORDINANCE CRITERIA FOR APPROVAL

#### Special Exception Application – Public Utility Within a Floodplain

*Section 4-1506(D) of the Revised 1993 Loudoun County Zoning Ordinance permits structures or uses required for the operation of a public utility to be located within the floodplain by special exception. In considering applications for special exception, Section 5-1507 states the Board of Supervisors must be satisfied that the following standards have been met:*

- (A) *The proposed use will not increase the danger to life and property due to increased flood heights or velocities.*

Analysis: The Applicant states the limited floor area of the odor abatement facility in relation to the size of the impacted floodplain will be negligible with no discernable increase in flood height or velocity.

- (B) *The proposed use will not increase the danger that materials may be swept downstream to the injury of others.*

Analysis: Materials are to be stored within the facility on a floor elevation above the 100 year flood elevation. Design of the structure will be required to account for flood related stresses.

- (C) *The proposed water supply and sanitation systems are designed to prevent disease, contamination, and unsanitary conditions.*

Analysis: The function of the proposed facility is to remove and control the discharge of odorous gas, a byproduct of wastewater conveyed by the Potomac Interceptor. Well water provided to employees maintaining the site will be required to meet local and state Health Code requirements. Waste will be discharged directly into the Potomac Interceptor (PI).

- (D) *The proposed use or structure must be located and designed to limit its susceptibility to flood damage, and available alternative locations, not subject to flooding, for the proposed use must be considered.*

Analysis: As noted above, the site was selected in part to ensure the most effective use of the odor abatement facility in relation to other facilities located along the length of PI system. By necessity the PI has been located within the floodplain to match the gravitational direction of the Potomac River. Due to the nature of its function, the facility must be located near the PI. Because the majority of the subject parcel is impacted by the Potomac River floodplain, there are no other locations close enough to the PI to be practicable.

- (E) *The proposed use is compatible with existing and planned development.*

Analysis: The proposed site layout, use and preservation of existing vegetation and building design of the proposed odor abatement facility will minimize visual disruption to established recreation and residential uses in proximity to the subject site as well as address air quality concerns associated with the Potomac Interceptor.

- (F) *The proposed use is in harmony with the comprehensive plan.*

Analysis: The proposed odor abatement facility is consistent with the existing land use policies of the Revised General Plan and is an innovative approach to addressing air quality concerns associated with the Potomac Interceptor and will minimize visual disruption to established recreation and residential uses in proximity to the subject site. Subject to development conditions described above, the proposed special exception will be in accordance with the RGP.

- (G) *The expected heights, velocity, duration, rate of rise and sediment transport of the flood waters expected at the site should not cause significant damage.*

Analysis: As noted in the response to Standard A above, the Applicant states the limited floor area of the odor abatement facility in relation to the size of the impacted floodplain will be negligible with no discernable increase in flood height or velocity and will not cause significant damage to the proposed facilities or adjacent uses and/or structures.

<b>VI. ATTACHMENTS</b> (UNLESS NOTED OTHERWISE, ATTACHMENTS ARE AVAILABLE ELECTRONICALLY AND MAY BE OBTAINED FROM THE DEPARTMENT OF PLANNING)	<b>PAGE NUMBER</b>
<b>1. Review Agency Comments</b>	
a. Planning, Comprehensive Planning (04-01-10)	A-1
b. Building and Development, Environmental Review Team (03-16-10)	A-9
c. Planning, Community Information and Outreach (03-23-10)	A-11
d. Building and Development, Zoning (03-26-10)	A-13
e. Office of Transportation Services (04-09-10)	A-15
f. Virginia Department of Transportation (02-24-10)	A-19
g. Parks, Recreation, and Community Services (03-19-10)	A-21
h. Virginia Department of Conservation and Recreation (03-17-10)	A-23
i. Fire, Rescue, and Emergency Services (03-15-10)	A-25
j. Health Department (03-02-10)	A-27
k. Department of General Services (03-19-10)	A-29
l. Loudoun Water (04-19-10)	A-31
<b>2. Applicant's Statement of Justification</b> (02-05-10)	A-33
<b>3. Applicant's Response to Referral Comments</b> (04-22-10)	A-43
<b>4. Disclosure of Real Parties in Interest</b> (05-04-10)	A-51
<b>5. Plat</b> (revised through 04-21-10)	Follows A-59